UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R077XC053NM

Site Name: Loamy

Precipitation or Climate Zone: 14 to 18 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on nearly level to gently sloping upland plains and footslopes of breaks and low ridges. It may occur on both convex and concave or slightly depressed positions in the landscape. Slopes range from 0 to 5 percent typically but may be as high as 15 percent on footslopes. Direction of slope varies and is not significant. Elevation ranges from 3,550 to 4,330 feet above sea level.

Land Form:

1. Plain
2. Ridge
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	3,550	4,330
Slope (percent)	0	15
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of the area is "semi-arid continental".

The average annual precipitation ranges from 14 to 18 inches. Variations of 5 inches, more or less, are common. Approximately 85 percent of the precipitation falls from April through October. Most of the summer precipitation falls in the form of high intensity-short duration thunderstorms, often accompanied by hailstorms.

Distinct seasonal changes and large annual and diurnal temperature changes characterize temperatures. The average annual temperature is 58 to 61 degrees F with extremes of 30 degrees F below zero in the winter to 110 degrees F in the summer.

The average frost-free season is 190 to 210 days. The last killing frost being in early to mid-April and the first killing frost being in late October to early November.

Temperature and rainfall both favor warm-season perennial plant growth. Occasionally an early spring or late fall storm will occur from a prolonged front. This, along with occasional spring and fall showers, allows the cool-season component to occupy an important part of this plant community. The vegetation on this site can take advantage of the moisture at the time it falls. Because of the soil profile, little moisture can be stored for any length of time. Strong winds blow from February through May from the south, which rapidly dries out the soil during a period critical to cool-season plant growth.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	181	216
Freeze-free period (days):	203	238
Mean annual precipitation (inches):	14	18

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.37	0.45	22.0	56.6
February	0.35	0.49	25.8	62.0
March	0.44	0.68	31.5	69.0
April	0.62	1.05	39.6	77.0
May	1.67	2.10	49.4	85.5
June	1.89	2.63	58.4	92.8
July	2.15	2.75	62.1	93.6
August	2.41	2.95	60.7	91.9
September	1.88	2.63	53.9	85.9
October	1.31	1.73	42.6	77.1
November	0.51	0.57	30.5	65.3
December	0.42	0.60	23.1	58.1

Climate Stations:

				Period		
Station ID	291939	Location	Clovis, New Mexico	From: 11/24/10	To:	12/31/01
Station ID	292207	Location	Crossroads #2, New Mexico	From: 07/01/29	To:	05/31/01
Station ID	292854	Location	Elida, New Mexico	From: 05/01/14	To:	12/31/01
Station ID	294026	Location	Hobbs, New Mexico	From: 01/01/14	To:	12/31/01
Station ID	295617	Location	Melrose, New Mexico	From: 04/01/14	To:	12/31/01
Station ID	297008	Location	Portales, New Mexico	From: 01/01/14	To:	12/31/01
Station ID	298713	Location	Tatum, New Mexico	From: 06/01/19	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

These are well-drained deep soils with a few moderately deep soils included. The surface textures are typically loam with some clay loams included. The textures of the subsurface layers are loam, clay loam and sandy clay loam. Permeability is moderate in most of the soils with some moderately slow in the clay loam phases. The available water-holding capacity is high. The effective rooting depth is 26 to 40 inches. These subsoils, once wetted, can store available water for relatively long periods of time to the advantage of vigorous plants with long, healthy root systems. Greatest production from these soils is obtained by a plant community, which has root systems that can work the entire wetted soil profile.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Loam
2. Fine sandy loam
3. Clay loam

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Loamy
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): N/A
Subsurface Fragments <=3" (%Volume): 15 to 35
Subsurface Fragments >=3" (%Volume): N/A

	Minimum	Maximum
Drainage Class:	Moderately well	Well
Permeability Class:	Very slow	Moderately slow
Depth (inches):	20	>72
Electrical Conductivity (mmhos/cm):	0.00	4.00
Sodium Absorption Ratio:	0.00	6.00
Soil Reaction (1:1 Water):	6.6	8.4
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	9	12
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
The aspect of the potential natural plant community on this site is that of a mixed short and mid-grass prairie. Shrubs and half-shrubs are generally scarce, inconspicuous and widely scattered. Dominant in composition are grasses such as the gramas, little bluestem and buffalograss. A variety of perennial forbs are also present. Response to dynamic climatic flux is exhibited by the annual grass and forb components. The perennial grass and forb components remain fairly constant in relation to each other, with the total production of both increasing or decreasing in a parallel manner during wet or dry years and cycles. The woody component is relatively constant excluding man-made disturbances or fire. Taller, deeper rooted vegetation is limited more by wetted soil depth as influenced by climate than it is by total soil depth, since the precipitation on this site is not commensurate with the total soil depth or the ability of the site to hold moisture. Vegetative production is quite variable within this site, the lower, concave or depressed, runoff-receiving positions in the landscape producing one and one-half to twice as much herbage weight as the higher, convex, runoff-yielding positions on the landscape.

Canopy Cover:	
Trees	0
Shrubs and half shrubs	0 – 3 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	35 – 45
Bare ground	15 – 20
Surface gravel	0 – 5
Surface cobble and stone	0
Litter (percent)	35 – 40
Litter (average depth in cm.)	2 – 5

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	664	1,058	1,453
Forb	104	166	228
Tree/Shrub/Vine	32	51	70
Lichen			
Moss			
Microbiotic Crusts			
Total	800	1,275	1,750

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOCU	Sideoats Grama	191 – 255	191 – 255
2	BOGR2 BOHI2	Blue Grama Hairy Grama	383 – 510	383 – 510
3	BUDA	Buffalograss	38 – 64	38 – 64
4	BOER4	Black Grama	38 – 64	38 – 64
5	SCSC	Little Bluestem	38 – 64	38 – 64
6	BOSA SEVU2	Silver Bluestem Plains Bristlegrass	38 – 64	38 – 64
7	PAOB PLUM3 PLJA	Vine-mesquite Tobosa Galleta	38 – 64	38 – 64
8	SPCR	Sand Dropseed	64 – 128	64 – 128
9	ARIST	Threeawn spp.	38 – 64	38 – 64
10	MUTO2	Ring Muhly	26 – 64	26 – 64
11	2GA	Other Annual Grasses	38 – 64	38 – 64

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	SPHAE VEPO4 RACO3	Globemallow spp. Verbena Prairie Coneflower	26 – 64	26 – 64
13	HOGL2 GAPU	Indian Rushpea Firewheel (Indian Blanket)	26 – 38	26 – 38
14	GRSQ ASCLE SOEL OXYTR SENEC	Curlycup Gumweed Milkweed spp. Silverleaf Nightshade Locoweed spp. Groundsel spp.	26 – 64	26 – 64
15	ERTE13	Texas Filaree	13 – 38	13 – 38
16	2FORB	Other Forbs	13 – 64	13 – 64

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
17	YUGL OPPO	Small Soapweed Yucca Plains Pricklypear Cactus	13 – 38	13 – 38
18	GUSA2	Broom Snakeweed	13 – 26	13 – 26
19	OPSP2	Cholla Cactus	13 – 26	13 – 26
20	2SD	Other Shrubs	13 – 38	13 – 38

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses that could appear on this site include: Indiangrass, Arizona cottontop, creeping muhly, wolftail, Hall's panicum, slim tridens, six-weeks grama, Indian ricegrass and western wheatgrass.
Other woody plants that could appear on this site include: winterfat, pale wolfberry, cactus spp., fourwing saltbush, ephedra spp. and mesquite.
Other forbs that could appear on this site include: senna, zinnia, lemon scurfpea, dotted gayfeather, American vetch, bladderpod, Wright's buckwheat, buffalobur, mustard and pingue.

Plant Growth Curves

Growth Curve ID **5503NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Short and mid-grass prairie with minor components of shrubs and forbs.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	2	5	5	10	25	30	15	7	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats which, support a resident animal community that is characterized by pronghorn antelope, coyote, black-tailed jackrabbit, spotted ground squirrel, black-tailed prairie dog, yellow-faced pocket gopher, silky pocket mouse, burrowing owl, scaled quail, horned lark, meadowlark, western spadefoot toad, Texas horned lizard, western coachwhip snake and prairie rattlesnake.

Where large woody plants are present, scissor-tailed flycatcher, mourning dove, white-necked raven, mockingbird, western kingbird and ferruginous and Swainson's hawks nest. Where associated with farmland, lesser sandhill crane and long-billed curlew feed or loaf during migration. Lark bunting is a regular winter migrant. Where associated with the playas interspersed throughout the site, cranes and curlews utilize the site for resting, killdeer, Great Plains and green toads are residents. In the playas, desert shrimp and annual freshwater clams hatch and spawn intermittently.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	**Hydrologic Group**
Acuff	B
Arizer	B
Arvana	C
Berda	B
Chavaro	B
Clovis	B
Estacado	B
Friona	C
Lea	C
Lofton	D
Mansker	B
Olton	C
Pep	B
Portales	B
Posey	B
Pullman	D
Ratliff	B

Hydrologic Interpretations Continued	
Soil Series	**Hydrologic Group**
Slaughter	C
Sparks	C
Stegall	C
Sundale	B
Zita	B

Recreational Uses:

This site offers recreation potential for hiking, horseback riding, nature observation, photography, quail and dove hunting, antelope and predator hunting. Small playa lakes are abundant throughout the landscape. During years of abundant winter and spring moisture, this site displays a variety of wildflowers in a wide spectrum of colors from May through August. A few fall blooming flowers are also present, maturing from summer rainfall moisture.

Wood Products:

The natural potential plant community of this site affords little or no wood products.

Other Products:

Grazing:

This site provides forage suitable for grazing during all seasons of the year, although by itself it lacks cover and protection for livestock from winter storms. It is suitable for grazing by all classes of cattle and also by sheep. This site, when in high condition, is not well suited for goats due to the lack of woody browse which, is highly preferred and constitutes a large portion of the goat diet. In general, cattle grazing will result in a decrease in palatable mid-grasses and forbs with a corresponding increase in low-value grasses, unpalatable and poisonous forbs and noxious brush. Sheep grazing results in a marked decrease in palatable forbs and short grasses with an increase in low-value grasses and shrubs. Continuous yearlong grazing or grazing continually during the potential growing season, results in a loss of sideoats grama, little bluestem, black grama and plains bristlegrass, allowing blue grama and buffalograss to take over the site. Grazing when the soil surface is wet also results in severe soil compaction, greatly reducing water intake, permeability and total water penetration depth to the further detriment of the deeper rooted, more productive species. Eventually, cholla cactus proliferates and mesquite invades, severely impairing the grazing value of the site. Well planned systems of deferred grazing by domestic livestock which, vary the seasons of grazing and rest in pastures during successive years, will result in a balanced plant community, providing high-quality forage and browse during all seasons of the year.

Other Information:	
Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month	
Similarity Index	**Ac/AUM**
100 - 76	2.0 – 3.1
75 – 51	3.0 – 4.3
50 – 26	4.2 – 7.0
25 – 0	7.0+

Plant Part	Code	Species Preference	Code
Stems	**S**	**None Selected**	**NS**
Leaves	**L**	**Preferred**	**P**
Flowers	**F**	**Desirable**	**D**
Fruits/Seeds	**F/S**	**Undesirable**	**U**
Entire Plant	**EP**	**Not Consumed**	**NC**
Underground Parts	**UP**	**Emergency**	**E**
		Toxic	**T**

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	P	P	P	P	D	D	D	D
Plains Bristlegrass	Setaria vulpiseta	EP	D	D	D	D	P	P	P	P	D	D	D	D
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Globemallow	Sphaeralcea spp.	EP	U	U	U	D	D	D	D	D	D	U	U	U
Verbena	Verbena polystachya	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Indian Rushpea	Hoffmanseggia glauca	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Texas Filaree	Erodium texanum	EP	U	U	P	P	P	P	P	P	D	D	D	U

Animal Kind: Livestock

Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Globemallow	Sphaeralcea spp.	EP	U	U	U	D	D	D	D	D	D	U	U	U
Verbena	Verbena polystachya	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Upright Prairie Coneflower	Ratibida columnifera	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Indian Rushpea	Hoffmannseggia glauca	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Firewheel (Indian Blanket)	Gaillardia pulchella	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Texas Filaree	Erodium texanum	EP	U	U	P	P	P	P	P	P	D	D	D	U
Other Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Plains Bristlegrass	Setaria vulpiseta	EP	D	D	D	D	P	P	P	P	D	D	D	D
Hairy Grama	Bouteloua hirsuta	EP	D	D	D	D	P	P	P	P	D	D	D	D
Buffalograss	Buchloe dactyloides	EP	D	D	D	D	P	P	P	P	D	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P

Animal Kind: Wildlife

Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Firewheel (Indian Blanket)	Gaillardia pulchella	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Globemallow	Sphaeralcea spp.	EP	U	U	U	D	D	D	D	D	D	U	U	U
Locoweed	Oxytropis spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Texas Filaree	Erodium texanum	EP	U	U	P	P	P	P	P	P	D	D	D	U
Verbena	Verbena polystachya	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Plains Bristlegrass	Setaria vulpiseta	EP	D	D	D	D	P	P	P	P	D	D	D	D
Broom Snakeweed	Gutierrezia sarothrae	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Indian Rushpea	Hoffmannseggia glauca	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites:

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **Chaves, Curry, De Baca, Lea, Roosevelt**

Latitude:

Longitude:

Township:

Range:

Section:

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description:

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern High Plains 77 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: Lea, Roosevelt & Curry.

Characteristic Soils Are:	
Acuff, Arizer, Arvana, Berda, Chavaro, Clovis	Estacado, Friona, Lea, Lofton, Mansker, Olton
Pep, Portales, Posey, Pullman, Ratliff	Slaughter, Sparks, Stegall, Sundale, Zita
Other Soils included are:	

Site Description Approval:

{PRIVATE}Author	Date	Approval	Date
Don Sylvester	06/05/80	Don Sylvester	06/05/80

Site Description Revision:

{PRIVATE}Author	Date	Approval	Date
Elizabeth Wright	01/09/03	George Chavez	2/24/03